



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,267	01/19/2001	Wen Tong	11962ROUS02U	1339

7590 04/05/2007
Bruce E. Garlick
Garlick & Harrison
P.O. Box 691
Spicewood, TX 78669-0691

EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/766,267

Applicant(s)

TONG ET AL.

Examiner

Hanh Nguyen

Art Unit

2668

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 1/19/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-11, 13, 15, 19-23 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 12, 14 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 1/19/07 have been fully considered but they are not persuasive.

Regarding claim 21, Applicant addresses, on page 12 of response that the claimed antenna, radio frequency unit and at least one digital processor included a base station are statutory because these elements are combined as an apparatus. Examiner does not agree because the claimed limitations does not disclose a "computer readable medium" storing "software instructions" that is "executed" by the radio frequency unit or the at least one digital processor. Further, it should have been the "at least one digital processor" that executes the software instructions rather than the "radio frequency unit" since the radio frequency unit as being known in the wireless art is not a processor (see specification, fig.13 & page 26). Therefore, claim 21 is maintained rejectable under 101 as nonstatutory.

Refer to claims 1, 2, 8, 9 and 15, Applicant further argues on page 16 that Hiyama fails to disclose a frame structure that includes a respective indication of at least one data rate of high speed data frame. Examiner does not agree because, as seen in fig.2A, col.3, lines 40-55, Hiyama discloses a group of predetermined number of bits is referred as a channel. A group of predetermined number of channels is referred as a "frame" (see col.3, lines 40-45). In fig.2A, a frame includes 4 channels X, each channel is composed of 10 bits. If repetition period (a channel) of the frame is selected to be 125micro seconds or 8 KHz, the corresponding data speed in the channel would be 10 Mbps (see col.3, lines 50-55). The claimed limitation requires "at least one data rate indication" . Therefore, the teaching of Hiyama meets the claimed limitation.

Art Unit: 2616

Examiner uses the TDM wireless network of Blachandran in combination with Hiyama et al. because the wire network of Hiyama et al. can be applied in wireless network of Blachandran which sequentially and wirelessly transmit TDM frames including rate indication and user indication respectively.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 21 is not statutory because its limitations comprising computer-related processes (see lines 6-15) which are limited to practical application and physical transfer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 9, 8 and 15 are rejected under 35 USC 103(a) as being unpatentable over Hiyama et al. (US pat. 4,855,995) in view of Balachandran et al. (US pat. No. 6,996,083 B1).

In claims 1, 8 and 15, Hiyama et al. discloses a wire network (see fig.1) wherein data frames (see fig.2) containing data transmission bit (rate indication in a frame) are repeatedly

transmitted in time division manner for a predetermined period along node equipments 2 (see Abstract and fig.1) (see col.3, lines 15-45& col.5, lines 52-60 and col.1, lines 10-15; repeatedly and sequentially wirely transmitting time division multiplexed frames containing respective data rate indication to a plurality of user terminals). Each frame comprises source address, destination address (a respective indication of at least one user terminal; see fig.2G); and data (see abstract; each node equipment sends data through channels of the frame). Hiyama et al. does not disclose a base station wirelessly transmit data communication to user terminal.

Balachandran et al. discloses a base station 12 wirelessly transmitting time division multiplexed frames containing data information to a plurality of mobile stations 20 and 30 (fig.1, base station wirelessly transmits data to the plurality of user terminals; col.25, lines 37-45 and col.2, lines 47-54). Therefore, it would have been obvious to one ordinary skilled in the art to apply the wirelessly transmitting of Balachandran et al. so that the TDM frame comprising data bit of Hiyama et al. can be sequentially and repeatedly wirelessly transmitted to the plurality of user terminals in the wireless network. The motivation is to save space setup in wire network.

In claims 2 and 9, the limitation supporting a plurality of data rates within high peed data frame has been addressed in claim 1.

Claims 6, 13, 19 and 21-23 are rejected under 35 USC 103(a) as being unpatentable over Hiyama et al. (US pat. 4,855,995) in view of Balachandran et al. (US pat. No. 6,996,083 B1), and further in view of Mochizuki (US pat. 6,628,633 B1).

In claims 21, 22 and 23 as explained by the rejection of claim 1, Balachandran et al. does not disclose a base station comprising an antenna, a Radio frequency unit, at least one digital

processor. Mochizuki discloses the base station (fig.8) comprising an antenna 501(antenna); circular 502 coupled to the antenna 501(RF unit coupled to the antenna); packet control apparatus 530 (at least one digital processor). Therefore, it would have been obvious to one ordinary skilled in the art to implement the features of Mochizuki into the base station of Balachandran et al. in order to arrive the claimed features.

In claims 6, 13 and 19, Hiyama et al. does not disclose a pilot signal, and reverse link power control bits. Mochizuki discloses each of the high speed data frames of the superframe further includes a pilot signal; and a plurality of reverse link power control bits intended for the plurality of user terminals (base station adjusts the transmission power of forward packet and sends a power control signal to the mobile terminal, see col.11, lines 30-42). Therefore, it would have been obvious to one skilled in the art to have the pilot signal and power control signal in the frame of Hiyama et al. so that the mobile terminal can adjust power to receive good.

Claims 3, 4, 10, 11, 17, 19 and 20 are rejected under 35 USC 103(a) as being unpatentable over Hiyama et al. (US pat. 4,855,995) in view of Balachandran et al. (US pat. No. 6,996,083 B1), and further in view of Rydbeck et al. (US Pat. No.6,332,006 B1),

In claims 3, 4, 10, 11 and 17, Hiyama et al. does not disclose coding frames with Walsh codes; and modulation scheme within a frame. Rydbeck et al. discloses, in Fig.6a, a base station 610 encodes data message (high rate data), voice messages (low rate data) by a convolution coding, Walsh coding (coding message by first coding type, second coding type) before transmitting to subscriber 650. The encoded messages is $\pi/4$ -DQPSK modulated before being transmitted to the subscriber 650 (modulating scheme). See col.10, lines 5-25 & col.11, lines 35-45. Therefore, it would have been obvious to one ordinary skilled in the art to combine the

encoding methods of Rydbeck et al. into Hiyama et al. in order to reduce error and protect confidential data from being detected by undesired receivers.

In claim 20, the limitations of these claims have been addressed in claims 1 and 15.

Allowable Subject Matter

Claims 5, 7, 12, 14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claims 5 and 12, the prior art does not disclose coding the data communications of a high speed data frame using a first coding type; and coding the respective indicator of the high speed data frame using a second coding type that is different from the first coding type.

In claims 7 and 14, the prior art does not disclose a high speed data frame including a secondary explicit data rate indicator indicating a user terminal of the plurality of user terminals for which a second portion of the high speed data frame is intended.

In claim 18, the prior art does not disclose decoding the respective indication contained in a high speed data frame using a first coding type; and decoding the data communications of the high speed data frame using a second coding type that is different from the first coding type.

Claim 24 is allowed over the prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

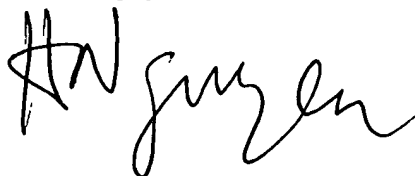
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild, can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen



**HANH NGUYEN
PRIMARY EXAMINER**